

**THE EFFECT OF EMOTIONAL INTELLIGENCE ON LEADERSHIP
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<https://orcid.org/0000-0002-5667-822X>**Abstract**

Purpose: Teachers have exceeded the traditional teaching role and are now recognized as leaders who initiate and administer institutional change and renovation, and guide students within and beyond the classroom. The successful execution of this new leadership role that teachers have assumed requires teachers to be raised as potential leaders prior to their professional lives. This, in turn, necessitates the determination of the components that influence prospective teachers' leadership orientations along with a better understanding of the nature of leadership. The main purpose of this study is to determine the influence of emotional intelligence on leadership orientations of first year students of the Anadolu University Education Faculty. **Research method:** Relational screening model is used to determine the relation between leadership orientation and emotional intelligence. The target population of this relational screening model study consists of first year students (n=854) studying at the Education Faculty of Anadolu University. Data from over 476 (56%) questionnaires was analyzed. Descriptive statistics and structural equation modelling were used for data analysis. **Findings:** The findings indicated a middle level significant linear relationship ($r=0.59$; $p<0.001$) between leadership and emotional intelligence. **Implications for Research and Practice:** In accordance with these findings, it is suggested that to increase leadership in education, programs supporting the development of emotional intelligence should be incorporated into teacher education programs.

Keywords: emotional intelligence, leadership orientation, teacher education, pre-service teachers, teacher leadership

Özet

Problem Durumu: Toplumlar arası gelir eşitsizliğinin küresel ekonomiye yansımaları son yıllarda daha kesin çizgiler ile görülmektedir. Bu gelir eşitsizliğinin temelinde yatan faktör, dünyada sermaye kavramının bilgi ve teknoloji sermayesine doğru evrim geçirmesinden kaynaklanmaktadır. Dolayısıyla bugün bilgiyi elinde tutan toplumlar teknolojik olarak ve beraberinde ekonomik olarak fark yaratmaktadır. Bu anlamda, bilgi madeninin işçileri olan öğretmenlere düşen görev ve sorumluluklar da değişmektedir.

Ülkeler, eğitim politikalarını belirlerken, yeni dünya düzeninde öğretmenlerin sahip olması gereken yeni nitelikleri de vurgulamakta ve öğretmen eğitimi programları, aday öğretmenlerine çağın gerektirdiği bu yeterlikleri edindirecek biçimde revize etmektedir. Dünya genelinde öğretmenlerin edinmeleri gereken yeni yeterlikler; "küresel farkındalık, yenilikçi ve girişimci beceriler, empati, gelişme ve geliştirme çabası, sosyal sorumluluk bilinci ve sosyal projelere katılım, yönetim, etkileme becerisi vb." biçimde öğretmenlere ortamın gereklerini hisseden ve buna göre davranan, sağduyulu bireyler olma gerekliliği atfedilmiştir.

Öğretmenlerin edinmesi gereken bu nitelik ve değerler, öğretmenlere klasik anlayış çerçevesinde tanımlanan öğreticilik rolünün yanında “liderliğin” öne çıktığı bir profil çizmektedir.

Liderlik kavramına işaret eden nitelikler, alan yazında aynı zamanda “duygusal zeka”nın da belirleyici nitelikleri olarak öne çıkmaktadır. Çalışmada kullanılan duygusal zeka ölçeği, yetenek tabanlı duygusal zeka modelini temel alarak geliştirilmiş bir duygusal zeka ölçeğidir. Literatürde yetenek tabanlı duygusal zeka modelini oluşturan faktörler, liderlik becerilerini de destekleyen faktörler olarak öne çıkmaktadır. Söz konusu bu benzerlikten yola çıkarak duygusal zeka ve liderlik arasında doğrusal ve pozitif yönlü bir ilişki olduğu düşünülmüştür. Bu bakımdan çalışmanın problem durumunu, duygusal zeka ve liderlik arasındaki ilişkinin belirlenmesi oluşturmaktadır.

Araştırmanın Amacı: Eğitim fakültesi 1. sınıfta öğrenim gören öğretmen adaylarının duygusal zekalarının liderlik özelliklerine etkisini açıklamak bu çalışmanın amacını oluşturmaktadır. Çalışma grubunun eğitim fakültesi 1. Sınıf öğrencilerinden seçilmesinin temel sebebi, öğretmenlik mesleğini tercih eden adayların öğretmenlik eğitimi almadan önce duygusal zekalarının ve liderlik yönelimlerinin ne düzeyde olduğunu saptamaktır. Bu amaçtan hareketle, eğitim fakültesi 1. sınıf öğretmen adaylarının duygusal zekalarının liderlik yönelimlerine doğrusal ve pozitif yönde bir etkisi olduğuna ilişkin bir araştırma hipotezi kurulmuştur.

Araştırmanın Yöntemi: Çalışmada, nicel paradigma benimsenmiş olup, genel tarama modellerinden ilişkisel tarama modeli kullanılmıştır. Bu çalışmada, Mayer and Salovey (1997) tarafından ortaya koyulmuş “Yetenek Tabanlı Duygusal Zeka Modeli”ni oluşturan faktörlerin kendi aralarında ilişkileri, Bolman and Deal (1991) tarafından ortaya koyulan “Liderlik Yönelimi Kuramı”ni oluşturan faktörlerin kendi aralarındaki ilişkileri ve Yetenek Tabanlı Duygusal Zeka ve Liderlik Yönelimi olguları arasındaki ilişki ve söz konusu ilişkinin düzeyini belirlemektedir. Duygusal zekanın liderlik yönelimi üzerindeki etkisini ve büyüklüğünü görmek için yapısal eşitlik modeli kullanılmıştır. Araştırmada denenen bu model, araştırmacı tarafından betimlenmemiş olup, kullanılan ölçeklere ilişkin faktörlerin kendi aralarındaki uyum ve kullanılan ölçekler arasındaki uyum gözetilerek analizler yapılmıştır.

Araştırmanın Bulguları: Duygusal zekanın liderlik yönelimi üzerindeki etkisini görmek için yapısal eşitlik modellemesinden (YEM) yararlanılmıştır. YEM çerçevesinde oluşturulan araştırma modeli, iki aşamalı model kapsamında değerlendirmeye alınmıştır. Bu yaklaşımın ilk aşamasını sınanan modelin uyum indekslerinin test edilmesi ve yapı geçerliliğinin kontrol edilmesiyle modelin bir yapı olarak doğrulanması oluşturmaktadır. İkinci aşamasını ise, yapı olarak doğrulanmış modelin etki kat sayıları değerlendirilerek yapısal ölçüm modelinin incelenmesi oluşturmaktadır. Uyum değerleri incelendiğinde χ^2/df ve RMSEA değerlerinin iyi uyum, SRMR değerinin kabul edilebilir uyum ve CFI'nın kabul edilebilir uyum değerine çok yakın olduğu sonucuna ulaşılmıştır. Yapısal eşitlik modelinin testinde ise duygusal zekanın liderlik yönelimi üzerinde pozitif yöne anlamlı bir etkiye sahip olduğu (β : 0,981; $p < 0,001$) bulunmuştur.

Araştırmanın Sonuçları ve Öneriler: Araştırma sonuçlarına göre, öğretmen adaylarının duygusal zekalarının liderlik yönelimleri üzerinde doğrusal ve pozitif yönlü etkisi bulunmaktadır. Alan yazında duygusal zekanın her yaşta geliştirilebilir olduğuna ilişkin

çalışmalar, duygusal zeka eğitimi yolu ile öğretmen adaylarının liderlik becerilerinin geliştirilebileceğine işaret etmektedir. Bu bağlamda, öğretmenlerin liderlik özellikleri gösterebilmeleri ve çalışma hayatında lider birer öğretmen olarak yer alabilmeleri için öğretmen eğitimi programına duygusal zeka gelişimine dönük etkinlikler eklenebilir.

Bunun yanı sıra, öğretmen yetiştirmeden sorumlu öğretim elemanlarının öğretmen adaylarının duygusal zekalarının yüksek olması gerektiğine, çünkü bu durumun “lider öğretmen” olmak ile doğrudan ilişkili olduğuna dönük farkındalıkları artırılabilir. Öğretmen yetiştirmeden sorumlu öğretim elemanlarının bu konuda edinecekleri farkındalık halihazırda öğretmen yetiştirme programı öğretmen adaylarına sunulurken öğretmen adaylarının duygusal zeka gelişimini olumlu yönde etkileyecek yönde zenginleştirilmesini sağlayacaktır.

Bundan sonraki çalışmalarda aynı ölçekler birinci sınıfta ve son sınıfta öğrenim gören öğretmen adaylarına uygulanabilir. Bu sayede öğretmen adaylarının öğretmenlik eğitimi boyunca duygusal zekâ ve liderlik yönelimi düzeylerindeki değişim gözlemlenebilir.

Literatürde yer alan ve okul liderliğini açıklayan “okulu yenileme tutkusuna sahip olmak” öğretmen liderliği çerçevesinde değerlendirildiğinde öğretmenlerin bağlı oldukları okulun kültürünün, ikliminin, başarılarının takdir edilmesinin liderlik yönelimleri üzerinde etki sahibi olduğu görülmektedir. Aynı zamanda literatürde doğrudan öğretmen liderliğini açıklayan faktörler olarak kabul edilen “işbirlikçi kültürü geliştirmek, gelişimi desteklemek ve gelişime dönük standartları saptamak, liderlik yetki ve yeteneklerini modellemek, yetkilendirilmiş lider davranışı gösterebilmek” Bu çalışmada liderlik yönelimini ölçmek için kullanılan ölçeğin alt faktörleri arasında bulunmamaktadır. Okul liderliği ve öğretmen liderliğine ilişkin literatürde yer alan bu alt faktörlerin duygusal zeka arasındaki ilişki de sınanarak yeni çalışmalar yapılabilir.

Anahtar Sözcükler: duygusal zeka, liderlik yönelimi, öğretmen eğitimi, öğretmen adayları, öğretmen liderliği

Introduction

“A sleeping giant lies in every school” this giant is teacher leadership (Katzenmeyer & Moller, 2009, p.2) and realizing true change in education requires this great power. Policy changes in education are possible in practice thanks to leader teachers (Katzenmeyer & Moller, 2009, p.2-3). This potential of teachers may be used in the only constant in education – constant change (Marzano, Waters and McNulty, 2005), to realize change and use teachers as agents of change. This is due to the fact that teachers are the direct practitioners of changes that take place at a policy level. Therefore, teachers should assume further leadership roles not only at the teaching level, but also at the institutional level (Harris, 2005, p.203).

Teachers should act as agents of change within their associated organizations (Bakkenes, Vermunt, & Wubbels, 2010; Fullan, 2007). There are at least two ways teachers may serve as agents of change within their educational organizations. One is for teachers in educational institutions to materialize changes that others wish to realize, while the other is to take the role of the trigger or initiator of change as a leader (Lukacs & Galluzzo, 2014, p.100). The difference of teacher leadership from general leadership definitions is the emphasis on practice and application in teacher leadership. Teachers should use their leadership attributes to increase student achievement and execute positive change in schools (Guenzler, 2016, s.18).

Fullan (1994, p.115) states that teacher leadership is required not from merely a few teachers, but from all teachers. As such, it may be stated that the power expected from the school of teacher leadership is emphasized not only in Turkey, but throughout the world. At the forefront of the global field of education, the “Singapore National Education Institute” prepared the “A Teacher Education Model for the 21st Century” report listing some of the characteristics required of teachers as; global awareness, innovative and entrepreneurial skills, empathy, effort to develop, social responsibility and participation, leadership and administration, and personal influence (NIE, 2009). These characteristics refer to the fact that leadership and emotional intelligence related abilities are emphasized in the roles and responsibilities of teachers in addition to the instructor role defined in the classical understanding of the teaching profession.

When educational institutions are taken into consideration as an organization, teacher leadership may be defined within the scope of organizational leadership. Goleman, Boyatzis and McKee (2002, p.3) explain organizational leadership in association with personal and interpersonal emotional intelligence, stating that emotional intelligence assumes an efficiency enhancing role within the organization, because leaders with high levels of emotional intelligence are successful in motivating, inciting passion in, and inspiring others. In addition, even if the work to be done is planned and well defined, organizations achieve success based on how this is carried out. Leaders are the ones who assume this primary role in ensuring success.

Leaders use their emotional intelligence to combine and inspire their followers socially, intellectually and environmentally, thereby using their emotional intelligence as intermediaries in creating effective performance (Boyatzis, Boyatzis & McKee, 2005, p.3). Encountering various emotion states at the same time is intrinsic to leadership (Koçmar, 2012). One of the constructive effects of emotional intelligence on leadership may be considered to be ensuring the successful management of these different emotion states.

Based on the information available, it may be stated that abilities regarding emotional intelligence may take on an important function in teacher leadership and the teaching profession. Additionally, abilities related to emotional intelligence are considered to have constructive and positive influences on leadership. It is therefore believed that the development of policies and applications prioritizing and supporting the development of the emotional intelligence of prospective teachers in their prevocational education would contribute to the education of leader teachers in teacher education institutions. Whether or not emotional intelligence directly influenced the leadership orientations of prevocational prospective teachers in initial education was aimed to be determined with this study.

Literature review

Bolman and Deal’s four frame leadership theory.

Due to their structures, organizations are multidimensional, complicated and dynamic institutions. Leadership behavior must emerge in accordance with this dynamism and multidimensionality (McCarthy, 2012). Therefore, adopting a single leadership approach in organizational leadership may reduce effectiveness. Bolman and Deal (1984, 1993, 2003, 2014) developed a multiple framed leadership theory to determine the situations that emerge

in organizations in different frames, and the leadership orientations portrayed in these frames. Each frame in the mane framed leadership orientations theory provides guidance to the leader whom adopts them based on the different situations encountered within the organization. The adoption of multiple frames rather than a single frame ensures significant increase in the effectiveness of leaders and administrators in their duties (Bolman & Deal, 2003, p. 16).

The four frames of organizational structure (Structural, Human Resource, Political, Symbolic), along with the metaphors, core concepts, leadership approach, and leadership duties used to describe these frames are portrayed in

Table 1.

Table 1

Bolman and Deal's four frame organizational structure (Bolman & Deal, 2014, s. 19)

	Structural Frame	Human Resources Frame	Political Frame	Symbolic Frame
Metaphor	Factory	Family	Forest	Temple/Theater
Core Concepts	Rules, Roles, Goals, Policies, Technologies, Environment	Needs, Emotions, Abilities, Relationships	Power, Conflict, Competition, Organizational Policies	Culture, Meaning, Metaphor, Ritual, Ceremony, Stories, Heroes
Leadership Framework	Social Architecture	Empowerment	Advocacy and Political Understanding	Inspiration, Providing meaning
Core Leadership Duties	Adapting to organizational structure, duties, technology and environment	Aligning the organization based on the needs and abilities of individuals	Developing resources and agendas.	Creating the meaning, fate, faith and hope of the organization

When Bolman and Deal's (1984, 1993, 2003, 2014) four framed theory is applied to educational organizations, the following analysis emerges; *structural frame* may express the official responsibilities of teachers regarding subjects such as the application of general and specific policies determined regarding education in countries, and the development of activities and practices in accordance with goals and strategies. *Human resources frame* may express an approach where students are taken into consideration as unique individuals, and where their individual needs and personal relationships are evaluated based on their abilities and limitations. *Political frame* while educational organizations comprise of individuals gathered around a common purpose, the members of this organization have assumed very different roles. Students, administrators, administrative staff, employees and teachers all act with different responsibilities within the organization for a common purpose. This situation may lead to conflict within the organization. Additionally, the interactions of educational organizations with their environment cannot be overlooked. Conducting all these variables harmoniously requires political skill. *Symbolic frame* the common value and culture shared by individuals

within the organization that comprise the elements which keep the organization together. As such, the organizational rituals, celebrations, ceremonies, stories, and heroes used to establish the common value and culture bear greater importance than administrative authority in carrying the organization forward (Bolman & Deal, 1984, p. 7; 2003, p. 15).

Ability based emotional intelligence model.

Emotional intelligence models differ based on the components they use to explain the phenomenon of emotional intelligence. They may fundamentally be studied under two categories, namely “Ability Based Emotional Intelligence Models” and “Mixed Models” (Çakar & Arbak, 2004, p. 34; Yazıcı, 2019, p. 9). The Ability Based Emotional Intelligence Model refers to emotional intelligence through the ability to process emotional data through cognitive processes, while Mixed Emotional Intelligence Models use a model that includes personal traits in addition to cognitive abilities to explain the concept of emotional intelligence (Mayer et al., 2000, p. 401). At this point it may be stated that the ability based emotional intelligence model is a common component of all emotional intelligence models.

The subdimensions of the ability based emotional intelligence model proposed by Mayer and Salovey (1997) are as follows:

- *Emotional Awareness*: The ability of individuals to perceive, evaluate, and express their own emotions and the emotions of others.
- *Facilitating Emotions*: Making effective use of emotions in thought and attention.
- *Understanding Emotions*: Individuals’ ability to analyze emotions, make connections between emotions and causation.
- *Emotional Organization*: The ability to organize and manage an emotional state with awareness of the flexible and rigid aspects of emotional states (Mayer et al., 2000, p. 401).

When the subdimensions of the ability based emotional intelligence model are studied, it is believed that they support the abilities required of the leadership frames in the four frame leadership orientations theory put forth by Bolman and Deal (1984, 1993, 2003, 2014). If, for example, the symbolic leadership frame is analyzed, it is possible to emphasize the intangible values of individuals and unite them under a certain goal (Bolman & Deal, 1984, 1993, 2003, 2014). Surely this goal cannot be achieved without understanding the emotions of the target audience and directing these emotions. Similarly, the human resources frame is a leadership approach that centralizes the individual, placing importance on the emotions and needs of an individual (Bolman & Deal, 1984, 1993, 2003, 2014). This approach too requires the use of emotional intelligence related abilities in the subdimensions of ability based emotional intelligence. The political frame requires foreseeing possible conflicts and threats within and beyond the organization, taking precautions by developing appropriate strategies, and providing resolution when conflict arises by appropriately directing the involved parties (Bolman & Deal, 1984, 1993, 2003, 2014). This situation once again points to the abilities that establish ability based emotional intelligence. In the structural frame, adaptation to the organization, environment, technological innovations, and rules are at hand (Bolman & Deal, 1984, 1993, 2003, 2014). While the emergence of leadership behaviors in the structural frame may not initially indicate the subdimensions of emotional intelligence, rules established in an organizational frame do not always have open and clear applications for every situation.

Educational organizations are multidimensional, and each situation is unique. In such instances, following the rules, and implementing policies and strategies undoubtedly require some degree of interpretation. Therefore, implementing appropriate practices in accordance with rules may be considered related to emotional intelligence. Within the scope of this study, this proposed relationship between ability based emotional intelligence and leadership is verified through the method of structural equation.

Method

Research Design

In this study, the relational screening model of the general survey models is used as a quantitative analysis method. General survey models are screening apparatus applied to either the whole of, or a group or sample from a population with many elements in order to reach a general judgement regarding that population (Karasar, 2004; Creswell, 2012). Relational screening models aim to determine the existence or degree of change between two or more variables (Karasar, 2004, p. 81).

This study aims to determine the relationships between the factors that constitute Mayer and Salovey's (1997) "Ability Based Emotional Intelligence Model", the factors that constitute Bolman and Deal's (1991) "Leadership Orientations Theory", and the relationship between Ability Based Emotional Intelligence and Leadership Orientations. Structural equation modelling was used to determine the effect and size of emotional intelligence on leadership orientations.

Initially proposed by Jöreskog (1970), this model is a multivariate statistical approach that portrays the relationship between multiple dependent and independent variables. This approach was deemed suitable for this study as it is appropriate for the simultaneous analysis of structural components and measurement components. During the application of the structural equation approach, the steps taken are model description, definition, calculation, fit test, and description again in that order (Bollen & Long, 1993). In this study, the model was not described by the researcher and analyses were conducted in accordance with the internal fit between the factors of the measures used and the fit between the measures used.

Study Group

The population of the study consists of teacher candidates studying their first year at the Anadolu University Education Faculty. Following an opportunistic sampling technique (Emmel, Seaman, Kenney, 2013) the study was conducted on the whole population except students from the "Computer and Technology Teaching" program, with 841 teacher candidates intended for inclusion in the study. However, as the study is based on voluntary participation, data was gathered from 553 teacher candidates. The distribution of these teacher candidates based on their study program is presented in Table 2

Table 2
Study population and applied measurement tool count

Programs	Population	Number of measurement tools evaluated
Pre-School Teaching	68	42
Classroom Teaching	84	42
Mathematics Teaching	89	80
Social Studies Teaching	66	52
English Teaching	170	65
German Teaching	44	36
French Teaching	24	14
Art Teaching	43	17
Guidance and Psychological Counselling Teaching	74	40
Special Education Teaching	163	88
Computer and Technology Teaching	13	-
Education Faculty	854	476

Research Instruments and Procedures

To explain the leadership orientations dimension that constitutes the dependent variable of the study, the “Leadership Orientations Scale” developed by Bolman and Deal (1991) and adapted to Turkish and Turkish culture by Dereli (2003) was used. This scale is structured as a five point Likert type scale with 32 statements and 4 factors, namely “Human Resources, Symbolic, Structural, and Political”. Due to the fact that the adaptation work of the scale was conducted on teachers, it was considered suitable for use on students studying at the education faculty.

The “Emotional Intelligence Scale” developed by Lee and Kwak (2012) and adapted to Turkish and Turkish culture by Kayıhan and Arslan (2016) was used to explain emotional intelligence as the independent variable of the study. This scale is structured as a five-point Likert scale, with Emotional Awareness and Understanding, Facilitating Emotions, Organizing Emotions constituting its three factors and consisting of 20 statements. The scale was originally intended as a development of Mayer and Salovey’s (1997) Ability Based Emotional Intelligence Model by Lee and Kwak (2012), however the model resulting from the factor analysis combined the “Emotional Awareness” and “Understanding Emotions” dimensions into a single subfactor in the scale. To evaluate the foundations of the measurement tools in accordance with the workgroup of this study, exploratory factor analysis (EFA) (maximum likelihood/Promax) was conducted and the sub structures were validated using confirmatory factor analysis (CFA). Data was gathered by researchers distributing the measurement tools as printed forms to the workgroup. Between April 15 and May 10, 2019, the single and multi-variable normalcy analyses of the prospective teachers in their first year at the Education Faculty was conducted and after 77 forms unsuitable for data analysis were omitted, data analysis was conducted on 476 forms. The response rate is 56%.

Hypothesis

This study was designed based on the concept that emotional intelligence influences leadership orientations. The findings of studies on the relationship between leadership and emotional intelligence indicate that there may be a positive, statistically significant and linear relationship between emotional intelligence and leadership (Tonioni, 2015; Cook, 2006; Tıkır, 2005; Taşkırın & Köse, 2016; Danacı, 2015; Batool, 2013; Kuşaklı & Bahçecik, 2012; Erkuş & Günlü, 2008; Çakar & Arbak, 2003; Acar, 2002; Gardner & Stough, 2002; Goleman, 2001; Palmer et al., 2001; Barling et al., 2000). The hypothesis of this study was established in accordance with related research in order to test whether or not emotional intelligence has a meaningful effect on leadership orientations. To test this hypothesis, structural equation modelling was used.

Research Hypothesis: Emotional intelligence has a linear and positive effect on leadership orientations.

Data Analysis and Results

Exploratory factor analysis was conducted to ensure the construct validity of the study. In addition, the model was verified using confirmatory factor analysis. Once the validity of the constructs was tested, structural equation modelling was used to test the research hypothesis. The analyses were conducted using SPSS 20.0 and AMOS 24.0 software packages.

Exploratory factor analysis.

To explain the factorial distribution of the “Emotional Intelligence Scale” and “Leadership Orientations Scale” in the study workgroup, exploratory factor analysis (EFA) was conducted. Nakip (2013, p. 428) states that Bartlett’s Test of Sphericity should be conducted prior to EFA in order to test the relationship between the variables in the population, while Kaiser Meyer-Olkin (KMO) sampling sufficiency testing is sufficient to test the suitability of the factor model. As such, Bartlett’s Test of Sphericity and KMO sampling sufficiency testing was conducted for this study.

Hair et al. (2014, p. 99) state that a KMO value of 0.8 and above indicates that the data is suitable for EFA (Kalaycı, 2017, p. 322). The KMO sample sufficiency test conducted in this study was 0.84 regarding Emotional Intelligence Scale, and 0.90 regarding the Leadership Orientations Scale. Additionally, the results for Bartlett’s Sphericity Test were significant for both Emotional Intelligence Scale (χ^2 : 1958,6; sd: 105; $p < 0,001$) and the Leadership Scale (χ^2 : 2953,69; sd: 153; $p < 0,001$).

In this study, “maximum likelihood” was used as a factorization method, while among oblique rotation methods, Promax was used for transformation. The factorization method aids in determining the number of factors, while the oblique rotation method helps in knowing whether or not a relationship will exist between factors prior to conducting factor analysis (Çokluk et al., 2016, p. 198-205).

Hair et al. (1998, p. 111) state that studies with sample sizes of 350 and above must have factor loads above 0.30 for statements. Due to the factor loads below 0.30 and the distribution under many factors as a result of the EFA, 5 statements from Emotional Intelligence Scale (ERU-int4, ERU-int6, EF-int11, EF-int12, ER-int20) and 14 statements from Leadership Orientations Scale (Pol-lead3, Pol-lead15, Pol-lead19, Pol-lead23, Pol-lead27, Pol-lead31,

Sym-lead4, Sym-lead8, Sym-lead28, Strc-lead5, Strc-lead21, Strc-lead25, Strc-lead29, HR-lead30) were omitted as they were not fit for use.

When the EFA was repeated following the omission of the aforementioned non-factor statements, the factor loads for statements of Emotional Intelligence Scale were found to be between 0.35 and 0.82, while the scale in general was condensed under three factors as it were in its original state. Additionally, the factors were observed to explain 52.13% of the total variance of the related variable. The factor loads for Leadership Orientations Scale were between 0.34 and 0.91, and in total the scale condensed under four factors as with the original scale. Additionally, the factors were found to explain 57.1% of the total variance of the related variable. In social sciences, an explanatory power of 50% or greater for the variable being measured regarding the total variance of the factors as a result of EFA is deemed suitable (Seçer, 2015, p. 164). As such, the total variance explained regarding the emotional intelligence and leadership orientations variables used in the study are at acceptable levels. The exploratory factor analysis results of Emotional Intelligence Scale is presented in Table 4 and of Leadership Orientations Scale in Table 6.

Table 3
Reliability results of Emotional Intelligence Scale

α	Emotional Regulation	Emotional Facilitation	Emotional Recognition and Understanding
Kayıhan and Arslan (2016)	0,72	0,71	0,76
This study	0,82	0,69	0,72

Table 4
The results of exploratory factor analysis for Emotional Intelligence Scale

Factors	Scale Items	Factor Loading	Total Variance Explained	Cronbach's Alpha
Emotional Regulation	ER-int14	0,73	29,28	0,823
	ER-int17	0,68		
	ER-int13	0,67		
	ER-int16	0,66		
	ER-int15	0,62		
	ER-int19	0,48		
	ER-int18	0,43		
Emotional Facilitation	EF-int8	0,77	13,31	0,694
	EF-int9	0,68		
	EF-int7	0,58		
	EF-int10	0,35		
Emotional Recognition and Understanding	ERU-int2	0,82	9,54	0,718
	ERU-int1	0,69		
	ERU-int5	0,51		
	ERU-int3	0,48		

Total variance explained: **52,13**

Extraction method: **Maximum Likelihood)**

Rotation Method: **Promax with Kaiser normalization**

Table 5*Descriptive values of factors for Emotional Intelligence Scale (n=476)*

Factors	Mean	Standard Deviation
Emotional Regulation	3,51	0,73
Emotional Facilitation	3,39	0,82
Emotional Recognition and Understanding	4,08	0,55

The Cronbach's Alpha coefficients regarding the sub factors of "Leadership Orientations Scale" adapted to Turkish by Dereli (2003) could not be reached. However, the total reliability coefficient of the scale was stated to be 0.98. The reliability coefficients of the factors in the scale of this study are portrayed in Table 6.

Table 6*The results of exploratory factor analysis for Leadership Orientations Scale*

Scale Items	Factor Loading	Total Variance Explained	Cronbach's Alpha
Human Resources	HR-lead10	0,91	33,94
	HR-lead2	0,63	
	HR-lead26	0,57	
	HR-lead18	0,57	
	HR-lead22	0,49	
	HR-lead6	0,39	
	HR-lead14	0,34	
Symbolic	Sym-lead20	0,73	10,62
	Sym-lead12	0,71	
	Sym-lead32	0,65	
	Sym-lead24	0,60	
	Sym-lead16	0,40	
Structural	Strc-lead17	0,87	6,93
	Strc-lead1	0,64	
	Strc-lead9	0,61	
	Strc-lead13	0,44	
Political	Pol-lead11	0,79	5,57
	Pol-lead7	0,78	

Total variance explained: **57,06**
Extraction method: **Maximum Likelihood**
Rotation Method: **Promax with Kaiser normalization**

Table 7*Descriptive values of factors for Leadership Orientations Scale (n=476)*

Factors	Mean	Standard Deviation
Human Resources	4,20	0,48
Symbolic	3,60	0,69
Structural	3,98	0,60
Political	3,53	0,89

Confirmatory factor analysis.

In the evaluation of the research model, a two-stage approach as recommended by Anderson and Gerbing (1988) was adopted. In this approach, after the fit index values were tested in the confirmatory factor analysis, the fit index values of the structural equation model were sought and the research hypothesis was tested. In this regard, CFA was used to test the fit index values in the confirmatory measurement model. In addition to serving the purpose of testing whether or not the data gathered was compatible with the structure of the measurement tool, it also shows whether or not a pre-determined construct is sufficient to establish a single structure within the scope of this study (Hair et al., 1988, p. 616-617).

As a result of the CFA, statements with low factor loads deemed unsuitable for establishing a single structure must be omitted so that the statements in the scales are suitable for establishing a single structure. To this end, one statement (EF-int10) in Emotional Intelligence Scale was omitted due to a factor load under 0.50, with the modification index values distancing it from the standard values. Regarding Leadership Orientations Scale, the statements removed as a result of the EFA analysis yielded suitable modification values without requiring any changes.

The confirmatory measurement model and standardized estimation values of Emotional Intelligence Scale are portrayed in Figure-1, while the confirmatory measurement model and standardized estimation values of Leadership Orientations Scale are presented in Figure-2

Additionally, in order to evaluate the construct validity of the scales, CR (Composite Reliability and AVE (Average Variance Extracted) values were observed. The findings regarding Emotional Intelligence Scale are presented in Table 10 while the findings regarding Leadership Orientations Scale are presented in Table 11.

Figure 1

The Confirmatory Factor Analysis Model of Emotional Intelligence Scale

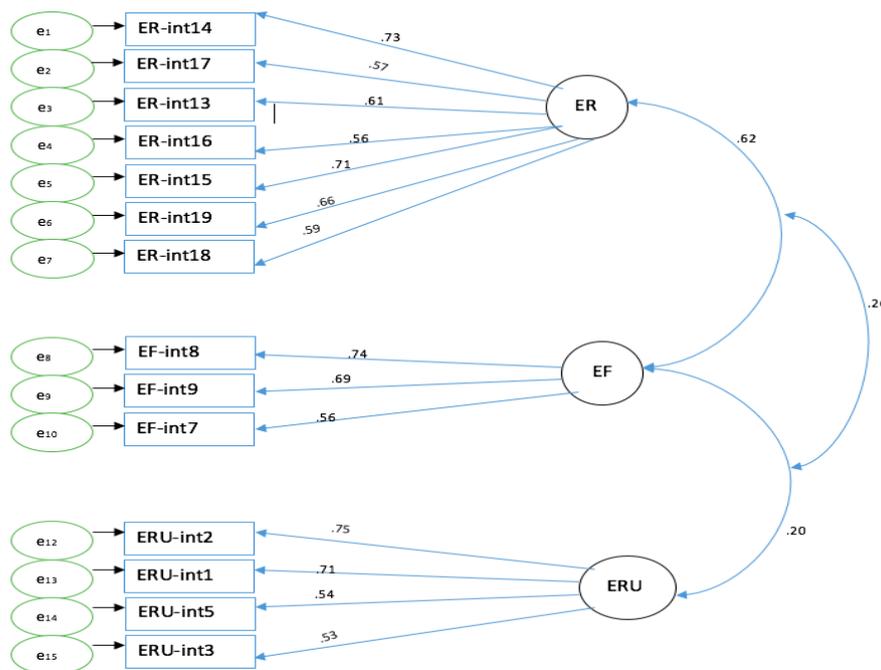


Table 8
Fit index values of confirmatory factor analysis of Emotional Intelligence Scale

	χ^2	df	χ^2/df	CFI	SRMR	RMSEA
Confirmatory factor analysis	274,32	74	3.34	0,91	0,06	0,07
Good fit index values	-	-	<3	$\geq 0,95$	$\leq 0,05$	<0,05
Acceptable fit index values	-	-	<5	$\geq 0,9$	$\leq 0,08$	<0,1

Figure 2
The Confirmatory Factor Analysis Model of Leadership Orientation Scale

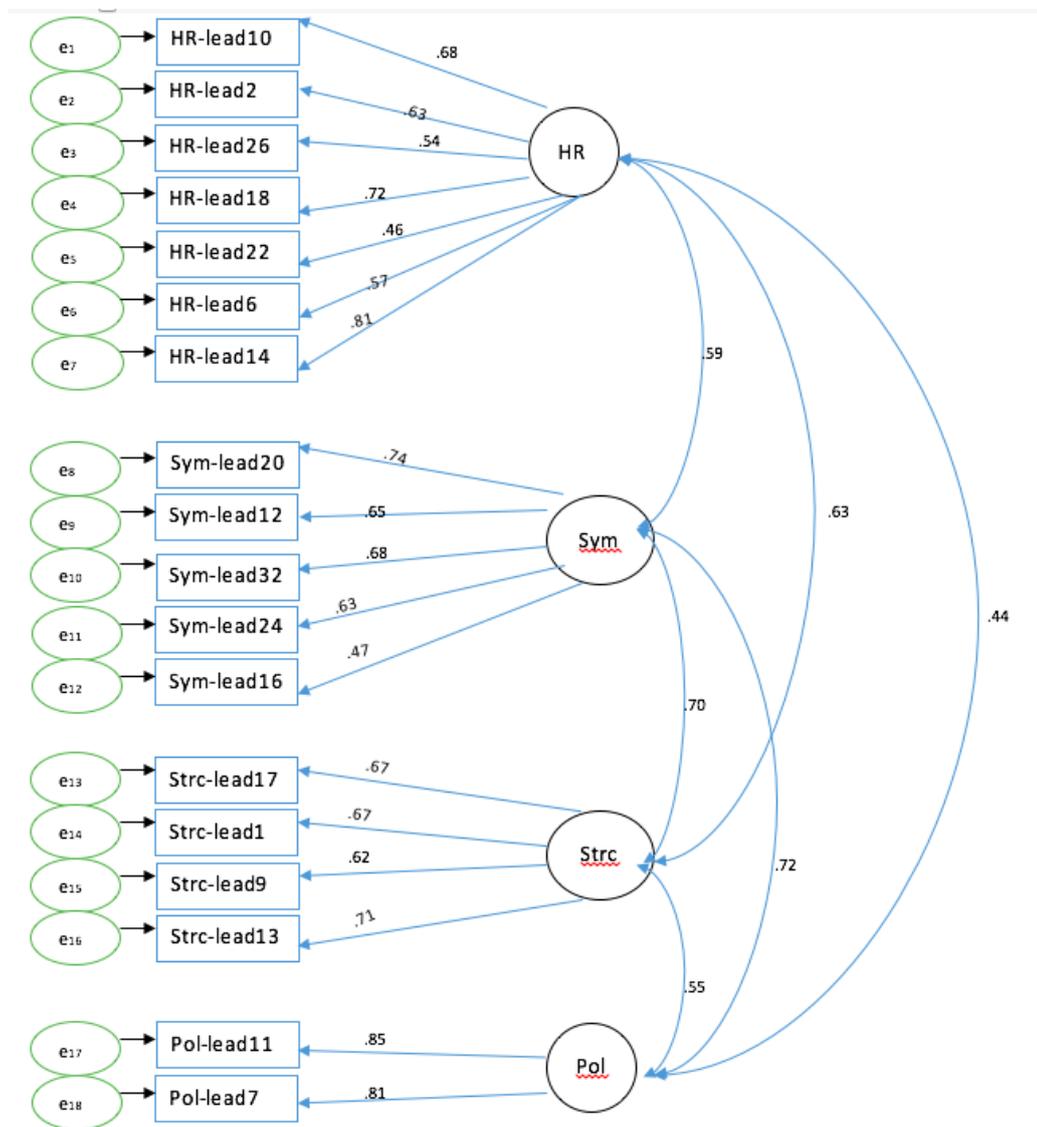


Table 9***Fit index values of confirmatory factor analysis of Leadership Orientations Scale***

	χ^2	df	χ^2/df	CFI	SRMR	RMSEA
Confirmatory factor analysis	367,32	129	2.85	0,92	0,06	0,06
Good fit index values	-	-	<3	$\geq 0,95$	$\leq 0,05$	<0,05
Acceptable fit index values	-	-	<5	$\geq 0,9$	$\leq 0,08$	<0,1

Table 10***Results of construct validity test for Emotional Intelligence scale***

	CR	AVE
Emotional Regulation	0,824	0,403
Emotional Facilitation	0,704	0,445
Emotional Recognition and Understanding	0,731	0,412
	CR > 0,70	AVE > 0,50

Table 11***Results of construct validity test for Leadership Orientations Scale***

	CR	AVE
Human Resources	0,800	0,368
Symbolic	0,772	0,409
Structural	0,761	0,443
Political	0,825	0,703
	CR > 0,70	AVE > 0,50

The findings presented in Table 10 and Table 11 show that while the CR values of the factors are above the threshold value (0.70) recommended in the literature, the AVE values are slightly below the recommended value (0.50) (Hair et al., 2014, p. 605). In such instances, CR values above the recommended threshold is considered sufficient for construct validity (Fornell & Larcker, 1981, p. 387). As a result, while the AVE values are slightly below the recommended threshold value, the CR values being significantly higher than the threshold indicates that the construct validity of the scales have been achieved.

Testing the research hypothesis.

To observe the effect of emotional intelligence on leadership orientation, structural equation modelling (SEM) was used. The research model established based on SEM was evaluated in accordance with the two-stage model proposed by Anderson and Gerbing (1998). The first stage of this approach is to test the fit indexes of the model being tested and verifying the model as a construct through ensuring the construct validity. The second stage is to evaluate the effect coefficients of the model confirmed to be a construct to study the structural measurement model.

The fit values regarding the evaluation of the confirmatory measurement model is provided in Table 12.

Table 12
Fit index values of confirmatory factor analysis

	χ^2	df	χ^2/df	CFI	SRMR	RMSEA
Confirmatory analysis	1019,98	453	2,252	0,89	0,07	0,05
Good fit index values	-	-	<3	≥0,95	≤0,05	<0,05
Acceptable fit index values	-	-	<5	≥0,9	≤0,08	<0,1

An analysis of the values observed in Table 12 result in good fit for χ^2/df and RMSEA values, acceptable fit for the SRMR value, and CFI that is very close to an acceptable level (Hu & Bentler, 1999, p. 23-28; Tabachnick & Fidell, 2012, p. 722). Based on these observations, it may be stated that the construct was confirmed. In the following stage, the structural equation model was tested.

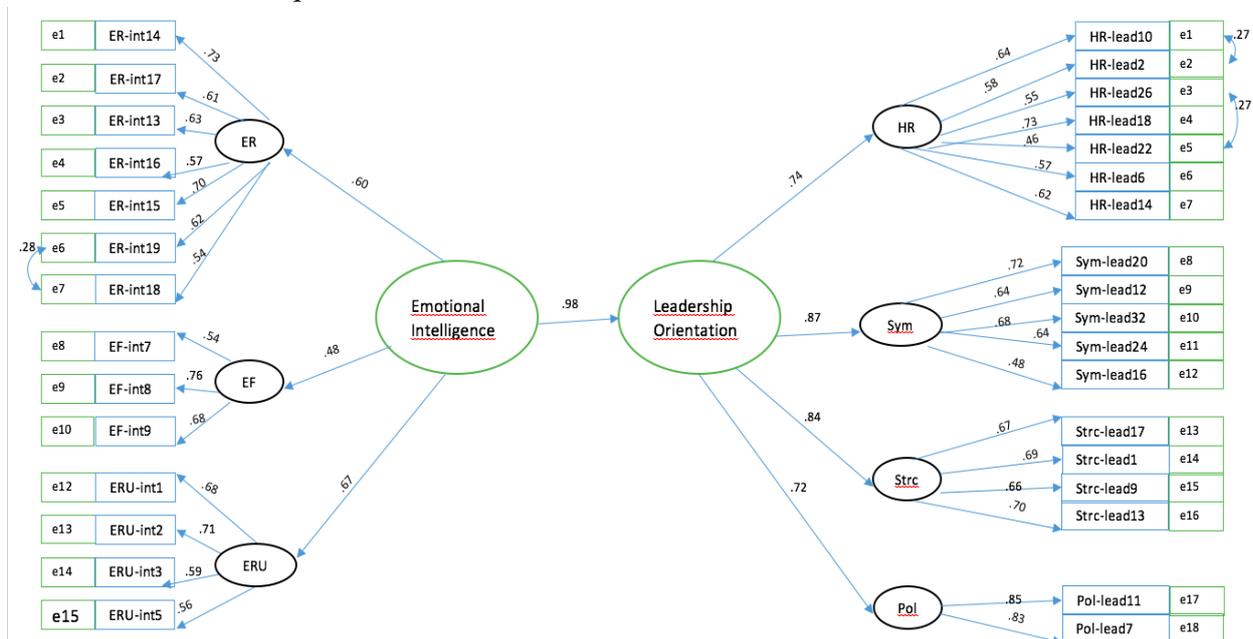
The effect coefficients for the structural equation model that was tested are presented in Table 13, while a diagram of the model is portrayed in Figure 3.

Table 13
Hypothesis testing result of measurement model

	β	B	S.E.	C.R.	Result
Emotional Intelligence → Leadership Orientation	0,981	1,997***	0,288	6,923	Supported

*** $p < 0,001$.

Figure 3
The structural equation model



Based on the findings presented in Table 13 and Figure 3, it may be concluded that emotional intelligence has a statistically significant positive effect on leadership orientation (β : 0,981; $p < 0,001$)

Discussion, Conclusion and Recommendations

In social countries, the raising and societal contribution of individuals are, to a certain degree, somewhat the responsibility of the government. The brunt of this responsibility from an educational aspect is borne by teachers, as they directly interact with the individuals whom will participate in society. Therefore, teachers may be considered the leaders of people who will shape society in the future, and thus are themselves leaders of society. As such, “leadership” is being discussed as a vocational characteristic that teachers must have both in Turkey and around the world, and is present in strategy documentation regarding the teaching profession (MEB, 2017; NIE, 2009). However, the practices required during the initial teacher education process to educate teachers as leaders have not been clearly portrayed. The literature review conducted revealed dozens of studies indicating that leadership training is provided to teachers around the world through in-service training programs. However, uncovering any research on pre-service education and developing leadership in teacher candidates proved very difficult.

The acquisition of the necessities of the leadership role that teachers assume professionally during the initial teacher education process is a subject worthy of study in this field. The phenomenon of leadership itself must first be explained in order to explain the development of leadership. To this end, the nature of leadership must be understood and the components that influence leadership orientations must be revealed. This study is built upon whether or not emotional intelligence is one of the components that influences leadership orientations. Based on this research question, the influence of emotional intelligence on leadership orientations is portrayed using structural equation modelling and various theoretical and practical applications are suggested in accordance with the literature in the field.

The positive relationship revealed between emotional intelligence and leadership orientation as a result of this study is supported by other studies in the field. Danacı (2015) found a positive but weak effect of emotional intelligence on leadership orientation. It is believed that this inconsistency may be a result of different samples. On the other hand, a significant positive effect of emotional intelligence has been proven on leadership behaviors (Kuşaklı & Bahçecik, 2012), certain specific leadership types (Erkuş & Günlü, 2008; Çakar & Arbak, 2003; Gardner & Stough, 2002; Barbuto & Burbach, 2006), and instructional leadership (Tıkrır, 2005). Emotional intelligence also has a significant positive influence on effective leadership (Batoöl, 2013) and leadership performance (Cook, 2006). Considering the relationship between emotional intelligence and leadership, it may be stated that supporting the development of teacher candidates’ emotional intelligence development may also develop their leadership attributes.

Some experimental studies have shown that emotional intelligence may be developed with short, or long-term educational programs (Slaski & Cartwright, 2003; Grant, 2007; Groves et al., 2008; Karahan & Yalçın, 2009; Hand & Slocum, 1972; Dolev & Leshem, 2016). Furthermore, studies show that there is no critical period for the development of emotional intelligence, and that it is open to development at all ages (Cherniss & Goleman, 2001). Therefore, enriching the undergraduate education programs of prospective teachers with content towards the development of emotional intelligence may be a step forward in educating the leader teachers of the future.

Based on the results of this study, it may be stated that emotional intelligence is one of the components that may contribute to the explanation of leadership orientation. However, the explanatory power of emotional intelligence on leadership orientations is limited. Therefore, other components that explain leadership orientation may be portrayed to provide a holistic leadership training understanding regarding teacher education.

It is stated that in order to develop their leadership characteristics in the personal experience and tendencies dimension, individuals must take advantage of the experiences they obtained throughout their own lives. This dimension may be correlated closely to Bandura's (1977) Social Learning Theory. Studies conducted in accordance with the personal experience and tendencies approach show that the role models from adolescence forward along with the social and cognitive experiences obtained during and prior to the leadership duration of leaders influence leadership behaviors. It may be stated that within the scope of the personal experience and tendencies dimension, leadership is open to development from very early ages. A study by Zacharatos et al. (2000, p. 222) on individuals in their adolescent stage revealed that mothers and fathers influence the transformative leadership behaviors of individuals in this pubescent stage. Additionally, leadership may be shaped by experiences obtained throughout a lifetime. In their study, Hirst et al. (2004, p. 321) found that experiences such as challenging work, complex problem solving, managing a project and a project team, communicating with a team and increasing team performance positively influenced and developed leadership behaviors in leaders. The researchers indicate that individuals who cope with these challenging experiences would achieve competence in coping with other challenging situations they are likely to face as leaders.

Regarding the abilities dimension, leadership is evaluated within the scope of leadership abilities. It is emphasized that for leadership to develop, the abilities that require leadership must be developed and as such, we try to understand how these abilities are acquired in the career development process (Mumford et al., 2000a, p. 87). Considering the strengths and weaknesses of each individual, the leadership development projected in the ability based approach may be seen as developing the leadership characteristic through the improvement of the weaknesses of leaders or reinforcing their strengths to a level that may substitute their weaknesses. Again, within the scope of the ability based leadership development dimension, the prevalent view is that individuals assuming leadership roles based on their current abilities within the organization is more effective regarding the efficiency of the organization (Mumford et al., 2000b, p. 115). Thus, individuals would also have the opportunity to advance the abilities they possess through the leadership duties they assume within the organization. In the "Military Leadership Exercises) measurement tool developed based on the ability based dimension by Marshall-Mies et al. (2000, p. 139-140), highly ranked leadership abilities were categorized as: general problem solving, planning and application, solution construction, solution evaluation, and social judgement and higher cognitive processes. It may be stated that these abilities are once again abilities that may be developed through experience or planned educational applications.

In the personality dimension, "personality" is seen as an explanatory factor regarding leadership development and performance (Mumford et al., 2000b, p. 118). In Strang and Kuhnert's (2009, p. 423-430) study of the degree to which the personality factors in the Five

Factor Personality Theory explain leadership performance, only the “conscientiousness” dimension of all the personality factors was found to be related to leadership performance. Conscientiousness is the personality factor that indicates a person is efficient, organized, reliable, responsible and complete. From this, it may be concluded that while not related to all the dimensions of human personality, the leadership phenomenon is related to certain personality traits.

On the subject of the personal development dimension, it is emphasized that 21st century leaders face rapid changes in all fields, and that they must correctly manage and adapt to these rapid changes in order to cope with them (Hasselbein et al., 1996, p. 126-128). During leaders’ adaptation to change process, they will undoubtedly need to develop themselves regarding adaptation to technology and certain social and cultural situations (such as social media use) brought forth by technology.

Individuals’ realization of their own educational needs and the personal development they plan to this end is one of the necessary mechanisms for leadership development (Boyce et al., 2010, p. 159). Individuals with characteristics conducive of specialization, work, and career development were found to have higher motivation for leadership development in a study conducted by Boyce et al., 2010, p. 159). This may indicate that leaders must be aware not only of their environmental needs, but also their personal needs and must thereby have the skills to plan and apply actions in order to meet these needs.

In their study trying to explain the school leadership of school principals, Shen et al. (2019) emphasized the importance of data-informed decision-making in school leadership. The process of data-informed decision-making may be an important subject not only for school leaders, but also for teacher leadership. Considering data-informed decision-making is an analytic skill, it may be stated that analytic intelligence, like emotional intelligence, may be one of the variables that explains teacher leadership. In the process of educating leader teachers, studies on the development of analytic intelligence along with that of emotional intelligence may be supported.

Beyond the aforementioned discussions, “passion for school renewal” is also listed as a factor explaining school leadership (Shen et al., 2019). This sub factor, discussed within the scope of school leadership, when evaluated regarding teacher leadership, may be counted among the other variables in addition to emotional intelligence that explain leadership such as; teachers expressing passionate behavior regarding the development of their affiliated organization, teacher attitude towards their profession, and lastly the environment, culture, and appreciation of achievements within their affiliated organization (Shen et al., 2019). To educate teacher candidates as leader teachers, their attitudes towards their profession may be supported throughout their teacher education, their achievements in their higher education institutions may be recognized and rewarded, and steps may be taken to improve the organizational environment and culture of the higher education institution.

In their study portraying the competences regarding teacher leadership, Yuet, Yusof and Mohamad (2016) explained teacher leadership through four sub dimensions, namely: “fostering a collaborative culture, facilitating improvement and establishing standards, modeling leadership attributes and skills, performing as a referral leader”. Future studies may investigate the influence of emotional intelligence on these four competences. Additionally,

how collaborative culture is established in the teacher education process may be included in the initial teacher education process. The first condition for this may be that higher education institutions that train teachers adopt a collaborative learning culture. Supporting organizational development, and determining the standards regarding organizational development are subjects that require analytic intelligence and political skill in addition to emotional intelligence. An educational program on developing standards in the teacher education process from an organizational vision and mission perspective may be included in the teacher education process. Additionally, general leadership and guiding leadership training may be presented to prospective teachers who do not know how to and which way to lead, as both theory and practice in pre-service education.

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